

**New Mexico State University Handout for the Science, Technology and Telecommunications Committee**  
**High Technology Work Force Development Session**  
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New Mexico State is the state's Land Grant Institution and one of three research universities in the state. Along with our 12 Agricultural Science Centers, Cooperative Extension connections in all 33 counties, and our four community college campuses (Dona Ana Community College, NMSU Grants, NMSU Alamogordo, & NMSU Carlsbad), we celebrate a diverse approach to education throughout the NMSU system. Workforce development grows out of a strong educational foundation where students learn how to thrive not only in the known opportunities of today, but also to have the ability to continue growing for the unknown opportunities of the future.

### **Early Intervention**

There is concern among most segments of our society regarding K-12 preparation. In addition to teacher training, our College of Education and College of Arts & Sciences Math Department have led a partnership with others across the state to develop the "MC<sup>2</sup> - Mathematically Connected Communities Statewide Alliance" (<http://mc2.nmsu.edu>). The focus is providing professional development for math educators.

Also the NMSU College of Engineering is the NM lead for "Project Lead the Way" (<http://pltw.nmsu.edu>) a national nonprofit organization that partners with middle schools and high schools to implement a fully developed curriculum. This curriculum is delivered by teachers trained by PLTW and emphasizes hands-on experiences in Science, Technology, Engineering, and Mathematics (STEM) as well as biomedical sciences.

These are two prominent examples of how NMSU is working on early intervention for our K-12 population. Over 2000 teachers have benefited from these efforts of these two programs. The College of Engineering with all K-16 STEM outreach programs reached over 13,000 students last year. These two examples are systemic approaches and have been in existence just long enough for us to begin to see their impact at the college level.

### **Alumni Data**

In a survey of our Spring 2012 graduates, just over 34% indicated that they plan to stay in New Mexico, 36.5% indicated they were not sure, and 29% indicated they were not staying in NM. Based on current alumni data, over half of NMSU alumni live in state. This is in line with data from 2007 indicating that approximately 67% of NMSU graduates are working in NM. However, when examining STEM subfields in the 2007 data the percentage drops to approximately 50 or less. One explanation would be that there are fewer job opportunities in these fields than all fields combined.

### **Business Relationships**

NMSU through its career services office and through faculty connections maintains relationships with many companies throughout the state. Our Community colleges meet regularly with business leaders in their districts to identify changing local workforce needs. From these types of meetings, Dona Ana Community College has developed an Environmental and Energy Technologies Applied Associates Degree and six certificates that cover solar energy, energy conservation, and alternative fuels. NMSU Alamogordo has developed a certificate in Photo Voltaic Energy and NMSU Carlsbad has developed a Solar/Wind Energy certificate.

For graduates to stay in state, having job opportunities is the key. Last year approximately 300 companies and or agencies attended various job fairs at the Las Cruces campus. Forty four of these were New Mexico companies and 25 of these 44 have a STEM focus. NMSU is being proactive in growing the number of companies in the state and helping established companies grow through two distinct programs on – Manufacturing Technology and Engineering Center (M-Tech) and the Arrowhead Center.

M-Tech (<http://mtec.nmsu.edu/>) supports economic development in New Mexico by providing technical assistance, outreach, training and engineering services throughout the State. M-TEC has expertise in engineering, manufacturing, product development, prototyping and other related areas and uses the resources and facilities located in the College of Engineering to assist businesses and individuals. The focus is generally on a specific problem on a short term basis. M-TEC supports workforce development by providing short course training activities and by partnering with New Mexico High Schools and Community Colleges through programs such as Project Lead the Way.

The Arrowhead Center conducts research to convert ideas into marketable technologies by bringing together innovative researchers, savvy entrepreneurs, eager students, and effective public and private partners. The center also launches start-up companies by serving and supporting the entrepreneur from idea to enterprise and grows New Mexico companies that contribute to a thriving economic ecosystem.

With resources in the areas of business assistance, technology incubation, intellectual property commercialization, economic policy analysis and growth in our rapidly developing research park, Arrowhead Center offers a comprehensive approach to economic development.

Twenty-four companies have worked with Arrowhead and are in various stages of development. For example, Silicon Mesa is a “business service” company providing cloud-based software and secure data storage solutions for the healthcare industry. The flagship product, SiliconMesa™ EHR, is an affordable, highly secure, fully integrated Electronic Health Records and Practice Management solution that is customized to fit a company's existing medical practice workflow.

Another example from the technology incubator efforts is Navitus. This company has developed a pioneering Battery Management System (BMS) that has been shown to increase the life of lithium ion batteries by over 5x, with a goal of 10x in the next two years, significantly driving down the cost of high end battery solutions while reducing the costs associated with maintaining and replacing them.

Along with incubator assistance for the community, Arrowhead has launched Studio G where student business ideas can grow into future successes for the state. One example of this effort is QuickBite@. Owned by Antonio Arredondo and being assisted by other programmer folks, QuickBite@ is a company developing a user-friendly application for the restaurant industry. Alpha testing is coming in the summer or fall of 2012 and beta testing won't be far behind! Along with mentoring, Studio G has connected Antonio with other developers in the region, provided feedback on the look and feel of his site, and given advice on business structure and incorporation.

These types of support for New Mexico businesses will lead to economic growth and provide jobs for students in the future. In the meantime, your continued support of higher education as well as the RPSP programs such as M-TECH will allow us to continue to make a difference for our future.